Block Converters Outdoor Series
Ku-Band



Introduction

Advantech Wireless offers a full line of block converters for outdoor applications. The block converters could be used as standalone, 1:1 or 1:2 weatherproof assemblies. The block converters cover all Satcom bands in L, S, C, X DBS, Ku and Ka commercial and military bands based on HP series of Advantech Wireless converters. A partial listing of the Ku-bands could be found on page 2.
The outdoor assemblies are fully integrated with redundant integral controllers **without the need for any Remote Control Panel.** A remote control panel is also available for convenience purposes

Features

- Weatherproof construction for outdoor use to IP54
- Covers all Satcom bands
- Inverting or Non-inverting can be specified
- Superior phase noise performance
- Built-in internal reference
- On-site reference aging correction capability
- High linearity
- RS232, RS485 interfaces

Overview

The Advantech Wireless series of block converters uses the latest technology in conversion, local and remote control thus providing the ultimate in performance and user friendly operation at a very competitive price.

The spectral purity, low phase noise and stability exceed the requirements of all major international satellite network operators.

Remote management interfaces ensures complete flexibility of integration into existing or new installations. The RS485 remote interface will provide full set-up and fault monitoring facilities. Ethernet option will allow the operator to pilot system operation either through SNMP or Web based interface.

The system reference guaranteeing conversion function's accuracy can optionally be provided externally, internally as a highly stable temperature compensated oscillator, or with auto-detection capacity that will use internal reference only in the absence of an externally provided one.

Options

- 1:1 or 1:2 Hot Swap Redundancy
- Ethernet interface with SNMP and Web Interface
- Remote Control Panel

Redundancy

The Advantech Wireless redundant system consists of the following elements:

1) Converters (two for 1:1 and three for 1:2)
2) Universal mounting plate for either system
3) Switching and interface module (two types)
4) Interconnecting cables

As mentioned above, the Remote Control Panel is optional. The interface between the outdoor system and the Remote Control Panel is via the RS485 interface. The Remote Control Panel will also provide its own RS485 and TCP/IP interface



Optional Remote Control Panel

Ku-band Block Converter Outdoor HP series

Technical Specifications

Block Up Converters			Block Down Converters		
RF frequency (GHz).	IF Frequency (MHz)	Model Number	RF frequency (GHz).	IF Frequency (MHz)	Model Number
12.75 – 13.25	950 - 1450	AWUB-LK1	10.7 – 11.7	950 - 1950	AWDB-KLr1
13.75 – 14.5	950 - 1700	AWUB-LKX	10.95 – 12.75	950 – 1450 / 950-1700	AWDB-KLr2
14.0 – 14.5	950 - 1450	AWUB-LKu	10.7 – 11.2 or 11.45-12.0	950 – 1450 or 950-1500	AWDB-KLr3
17.3 – 18.1	950 - 1750	AWUB-LDBS	10.95 – 11.7	950 - 1700	AWDB-KL1
			11.7 – 12.2	950 – 1450	AWDB-KL2
			12.25 – 12.75	950 - 1450	AWDB-KL3

Notes:

1) The above is a partial listing, please consult the factory for any different band
2) Unless specified, the bands are non-inversed. Special requirements can be accommodated
3) For standalone non-redundant application please use the above model number.
4) For 1:1 redundant applications add R1 to the above model numbers.
5) For 1:2 redundant applications add R2 to the above model numbers

Specifications						
RF/IF Output level	+10 dBm at P1dB					
IMD3 (two tone)	-40 dBc max @ 0 dBm output					
Input / Output connectors	Type N (female)					
Intput coupling	-20dBc					
Conversion Gain	20 dB @ max gain setting			Conversion Gain	40 dB @ max gain setting	
Gain adjustment	20 dB (0.1 dB step size)					
Gain flatness	± 1.5 dB max. over full band			1.0 dB p-p max. over 40 MHz		
Gain stability	±0.25 dB max. /24 hours			±1.5 dB over temp. range		
Spurious (in band)	<-55 dBc carrier related @ 0 dBm			<-60 dBm non-carrier related		
Noise Figure				20 dB		
Image rejection				60 dB		
Phase noise @ dBm/Hz	10Hz	100Hz	1kHZ	10kHz	100kHz	1MHz
	-55	-62	-72	-82	-95	-105
Reference				**Mechanical**		
External Reference	10 MHz (optional)			Dimensions single unit	W x H X L 4.5" x 5.0" x 21"	
Internal reference stability	± 2 x 10^{-8} over 0º to +50ºC			Redundancy	W x H x L 18" x 5.15" x 30"	
Aging	± 2 x 10^{-10} / day ± 5 x 10^{-8} / year					
Environmental				**Power Supply**		
Operational	-30°C to +55°C standard			Voltage	90 – 265 VAC (47 – 63 Hz)	
Storage	-55°C to +85°C			Power	40W typ.	
Humidity	Non-condensing			Connector	MS3102R16-10P	
Altitude	3,000m AMSL					
*** Other options**				**Monitor and Control**		
1) 10MHz auto-sensing reference				RS 485	MS3112E10-6P	
				RS 232	MS3112E10-6P	
				Discrete	MS3112E10-6P	
				Redundancy	MS3112E16-16P	
				Ethernet (optional)	MS3112E10-6P	

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Specifications are subject to change without notice